

OIL ANALYSIS REPORT

Area [41026305] 9413

Component **Diesel Engine**

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

		Janzuzu J	Jan2020 Feb2021 Aug20	21 Dec2021 Oct2022 Apr2023		
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0796453	WC0796497	WC0737504
Sample Date		Client Info		19 Aug 2023	01 Apr 2023	30 Oct 2022
Machine Age	kms	Client Info		566913	472639	432416
Oil Age	kms	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
CONTAMINATION	J	method	limit/base	current	history1	history2
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>90	13	15	16
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	0
Titanium	ppm	ASTM D5185(m)	>2	0	<1	<1
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	3	4	6
Lead	ppm	ASTM D5185(m)	>40	2	<1	4
Copper	ppm	ASTM D5185(m)	>330	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base 250	current 25	history1 55	history2 104
	ppm ppm					
Boron		ASTM D5185(m)	250	25	55	104
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	250 10	25 0	55 0	104
Boron Barium Molybdenum	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10	25 0 <1	55 0 12	104 0 81
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100	25 0 <1 <1	55 0 12 <1	104 0 81 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450	25 0 <1 <1 804	55 0 12 <1 575	104 0 81 <1 506
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450 3000	25 0 <1 <1 804 1440	55 0 12 <1 575 1744	104 0 81 <1 506 1824
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150	25 0 <1 <1 804 1440 779	55 0 12 <1 575 1744 870	104 0 81 <1 506 1824 882
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150	25 0 <1 <1 804 1440 779 846	55 0 12 <1 575 1744 870 917	104 0 81 <1 506 1824 882 959
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150	25 0 <1 <1 804 1440 779 846 2650	55 0 12 <1 575 1744 870 917 2740	104 0 81 <1 506 1824 882 959 2449
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250	25 0 <1 <1 804 1440 779 846 2650 <1	55 0 12 <1 575 1744 870 917 2740 <1	104 0 81 <1 506 1824 882 959 2449 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250	25 0 <1 <1 804 1440 779 846 2650 <1	55 0 12 <1 575 1744 870 917 2740 <1 history1	104 0 81 <1 506 1824 882 959 2449 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) method ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25	25 0 <1 <1 804 1440 779 846 2650 <1 current	55 0 12 <1 575 1744 870 917 2740 <1 history1	104 0 81 <1 506 1824 882 959 2449 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	25 0 <1 <1 804 1440 779 846 2650 <1 current 5	55 0 12 <1 575 1744 870 917 2740 <1 history1 4	104 0 81 <1 506 1824 882 959 2449 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	25 0 <1 <1 804 1440 779 846 2650 <1 current 5 3 7	55 0 12 <1 575 1744 870 917 2740 <1 history1 4 3	104 0 81 <1 506 1824 882 959 2449 <1 history2 5 2 10
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >3.0 limit/base	25 0 <1 <1 804 1440 779 846 2650 <1 current 5 3 7 1	55 0 12 <1 575 1744 870 917 2740 <1 history1 4 3 0 ▲ 2.8 history1	104 0 81 <1 506 1824 882 959 2449 <1 history2 5 2 10 <1.0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* method ASTM D7844*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >3.0 limit/base >6	25 0 <1 <1 804 1440 779 846 2650 <1 current 5 3 7 ▲ 1 current 0.1	55 0 12 <1 575 1744 870 917 2740 <1 history1 4 3 0 ▲ 2.8 history1 0	104 0 81 <1 506 1824 882 959 2449 <1 history2 5 2 10 <1.0 history2 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* method ASTM D75944* ASTM D7624*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >3.0 limit/base	25 0 <1 <1 804 1440 779 846 2650 <1 current 5 3 7 1	55 0 12 <1 575 1744 870 917 2740 <1 history1 4 3 0 ▲ 2.8 history1	104 0 81 <1 506 1824 882 959 2449 <1 history2 5 2 10 <1.0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* method ASTM D7593* ASTM D7844* ASTM D7624* ASTM D7624*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >3.0 limit/base >6 >20 >30	25 0 <1 <1 804 1440 779 846 2650 <1 current 5 3 7 ▲ 1 current 0.1 10.0 23.9	55 0 12 <1 575 1744 870 917 2740 <1 history1 4 3 0 ▲ 2.8 history1 0 10.2 25.6	104 0 81 <1 506 1824 882 959 2449 <1 history2 5 2 10 <1.0 history2 0.1 10.6 25.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* method ASTM D75944* ASTM D7624*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >3.0 limit/base >6 >20	25 0 <1 <1 804 1440 779 846 2650 <1 current 5 3 7 ▲ 1 current 0.1 10.0	55 0 12 <1 575 1744 870 917 2740 <1 history1 4 3 0 ▲ 2.8 history1 0 10.2	104 0 81 <1 506 1824 882 959 2449 <1 history2 5 2 10 <1.0 history2 0.1 10.6



OIL ANALYSIS REPORT





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0796453 : 02578587

Received : 5631647

: 28 Aug 2023 Diagnosed : 30 Aug 2023

Diagnostician : Wes Davis Test Package : MOB 1 (Additional Tests: FUELDILUTION, PercentFuel)

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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